

REMARKS/ARGUMENTS

The foregoing amendment and the following arguments are provided to impart precision to the claims, by more particularly pointing out the invention, rather than to avoid prior art.

35 U.S.C. § 102(b) Rejections

Examiner rejected claims 1-3, 5-12, and 15-20 under 35 U.S.C. § 102(b) as being anticipated by “Architectural Support for Complier-Synthesized Dynamic Branch Prediction Strategies: Rationale and Initial Results” (hereinafter “August et al.”).

“To anticipate a claim, the reference must teach every element of the claim. A claim is anticipated only if each and every element as set forth in the claim is found, either expressly or inherently described, in a single prior art reference.” (Manual of Patent Examining Procedures (MPEP) ¶ 2131.)

Independent claims 1, 11, and 15 include limitations that are not disclosed or suggested by August. In particular, Applicant’s independent claims include the limitation, or limitation similar thereto, of determining a predicted predicate value for a predicate, and conditionally executing a predicated instruction depending on the predicted predicate value.

August et al. does not teach such limitations. August et al. specifically discloses a predicate-based prediction scheme as a branch prediction mechanism. The predicate prediction value of August refers to using the predicate corresponding to a predicated branch instruction as a prediction for the branch instruction. (August et al., section 1).

Anytime the branch is fetched, the predicate register number is used to retrieve the value of that predicate from the predicate register file. This value is then used directly as the *branch's prediction*. (August, section 3.2).

Furthermore, as disclosed in August et al., the branch is always taken when the predicate is TRUE, however, when the predicate is FALSE nothing is known about the branch. When the predicate is FALSE, the PEP-Counter will default to using the FALSE counter in the traditional fashion. (August et al., section 3.3.1). This is not the same as a *predicted predicate* value for a predicate as presently claimed.

Applicants respectfully submit that August et al. contains no teaching or suggestion of determining a predicted predicate value for a predicate. The predicate values in August et al. are not predicted predicates. Rather, they are non-speculative, actual values. Therefore, Applicants respectfully submit August et al. does not teach or suggest Applicant's invention as set forth in independent claims 1, 11, and 15. The remaining claims 2-3, 5-10, 12, 16-17, and 20 depend from one of the foregoing independent claims. Therefore claims 2-3, 5-10, 12, 16-17, and 20 include the novel limitations discussed above and are patentably distinct from August et al.

35 U.S.C. § 103(a) Rejections

Examiner rejected claim 4 under 35 U.S.C. § 103(a) as being unpatentable over “Architectural Support for Complier-Synthesized Dynamic Branch Prediction Strategies: Rationale and Initial Results” (hereinafter “August et al.”).

To establish *prima facie* obviousness of a claimed invention, all the claim limitations must be taught or suggested by the prior art. *In re Royka*, 490 F.2d 981, 180, USPQ 580 (CCPA 1974). (Manual of Patent Examining Procedure (MPEP) ¶ 2143.03).

Applicant’s independent claims include the limitation, or limitation similar thereto, of determining a predicted predicate value for a predicate, and conditionally executing a predicated instruction depending on the predicted predicate value.

As previously discussed, August et al. does not teach such limitations. Rather, August et al. specifically teaches a branch prediction mechanism using predicates of a predicated branch. Applicants respectfully submit that August et al. contains no teaching or suggestion of predicting a predicate value for a predicate.

Therefore, Applicants respectfully submit August et al. does not teach or suggest Applicant’s invention as set forth in independent claims 1. Claim 4 depends from independent claim 1. Therefore claim 4 includes the novel limitations discussed above and is patentable over August et al.

CONCLUSION

Applicants respectfully submit the present application is in condition for allowance. If the Examiner believes a telephone conference would expedite or assist in the allowance of the present application, the Examiner is invited to call Naya Chatterjee at (408) 720-8300.

Authorization is hereby given to charge our Deposit Account No. 02-2666 for any charges that may be due.

Respectfully submitted,

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